

**SYSTEM AND METHOD FOR PROVIDING AN ACCURATE
ESTIMATION OF RECEIVED SIGNAL INTERFERENCE FOR USE IN
WIRELESS COMMUNICATIONS SYSTEMS**

ABSTRACT

A system for providing an accurate interference value signal received over a channel and transmitted by an external transceiver. The system includes a first receiver section for receiving the signal, which has a desired signal component and an interference component. A signal extracting circuit extracts an estimate of the desired signal component from the received signal. A noise estimation circuit provides the accurate interference value based on the estimate of the desired signal component and the received signal. A look-up table transforms the accurate noise and/or interference value to a normalization factor. A carrier signal-to interference ratio circuit employs the normalization factor and the received signal to compute an accurate carrier signal-to-interference ratio estimate. Path-combining circuitry generates optimal path-combining weights based on the received signal and the normalization factor.